



# International Society of Biomechanics Newsletter

**ISSUE Number 89**  
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### AFFILIATE SOCIETIES OF ISB:

American Society of Biomechanics; Australian and New Zealand Society of Biomechanics;  
British Association of Sport and Exercise Sciences; Bulgarian Society of Biomechanics;  
Canadian Society of Biomechanics/Société canadienne de biomécanique; Chinese Society  
of Sports Biomechanics; Comisia de Biomecanica Inginerie si Informatica (Romania);  
Czech Society of Biomechanics; Taiwanese Society of Biomechanics, Japanese Society of  
Biomechanics; Korean Society of Sport Biomechanics; Polish Society of Biomechanics;  
Russian Society of Biomechanics; Société de biomécanique (France).

## From the President – Mary Rodgers

I am both honored and pleased to be serving as the President of the International Society of Biomechanics. Many years ago, when I attended my first ISB meeting in Umeå, Sweden as a graduate student from Penn State, I couldn't have imagined that one day I would be providing this group's leadership.

Throughout my career, ISB has played an important role in guiding my research. I've also had the opportunity to interact on many levels with valued colleagues representing a wide range of disciplines within the field of biomechanics. I am thankful to be able to contribute to the growth of our society as well as play a part in its history. Now, I am giving back.

For those of you who haven't met me, I'd like to give you a bit of my background. Although I was born in Florida (USA), I consider myself a North Carolina native, as that's where I grew up. While in high school in Lexington, North Carolina, I took some tests to determine, based on my skills and likes, which career would be best suited to me.

The results came in—and the test said I should either be a physical therapist or a farmer.

As you can see, I chose the former, not the farmer.

In 1976, I received my BS in Physical Therapy from the University of North Carolina at Chapel Hill; I likewise received my MS in Biomechanics (Medical Allied Health) from UNC in 1981. I earned my PhD in Biomechanics (Exercise Science) from the Pennsylvania State University in 1985.

For the last five years, I have served as the Chair of the University of Maryland School of Medicine, Department of Physical Therapy and Rehabilitation Science in Baltimore, Maryland, USA. I began teaching at the university in 1994 and am a tenured Professor since 1998.

My major areas of teaching and research include wheelchair propulsion biomechanics, gait analysis, pathokinesiology, and rehabilitation. Over the years, I have contributed over 30 refereed articles on rehabilitation biomechanics. For the past 15 years, I have been funded by

VAR&D for research related to wheelchair propulsion.

In addition, I am PI on a research resource core called "Functional Performance and Neuromuscular Mechanisms" in a Pepper Center funded by the National Institute of Aging. I have served on the editorial board for two professional journals, and am a member of seven professional societies, having held office in three (including the American Physical Therapy Association and the American Society of Biomechanics, as well as ISB). I also review grants for NIH, NIDRR, VAR&D, and the Physical Therapy Foundation.

But enough about me...

This past July, I enjoyed seeing many of you at the ISB conference in New Zealand. This was my first time visiting the country. And what a beautiful land it is - even with ice covering the Dunedin airport! (Some of us had an unexpected layover in Auckland and got to see a little more of "Kiwi-land" than we expected.)

Peter Milburn and Alan Walmsley, the conference organizers, did a great job of accommodating us despite the winter weather. They also provided an outstanding scientific program and helped us tourists really share in New Zealand culture.

The conference featured excellent presentations by keynote speakers, and our members got to experience 227 oral and 178 poster presentations of outstanding science.

(Planning is already underway for the 2005 conference, which will be held in Cleveland, Ohio, USA. Brian Davis and Ton van den Bogert, the 2005 conference organizers, have already promised us warm weather along with an outstanding program.)

ISB conferences provide the perfect opportunities for our members to participate in intellectual discussions of all things biomechanical throughout the world. Considering all the crises going on in our world today, it's especially gratifying to see the international camaraderie fostered through ISB.

Speaking of an international melting pot—did you know that since 1987, the ISB conference has been held in nine different countries? Our current officers and council members hail from eight countries. ISB also forms liaisons with more than a dozen national organizations.

So what does this mean? Because of its international involvement, ISB is in a position to facilitate more global collaborations, which will expand the scope of biomechanics research. (See the call for proposals for the 2007 ISB conference from President-elect Brian Davis in this newsletter.)

But besides the conference, ISB has strong initiatives that have contributed to the international biomechanics community. We at ISB have helped to standardize a variety of methods and reporting. Another of our strengths is our involvement and support of students; this is especially important because they will be the future of biomechanics.

ISB also has a number of changes that have been introduced. I invite you to take the time to read this newsletter to learn about the suggested changes to the operating codes as well as some constitutional amendments. The new constitutional amendments will need to be voted on, and I am counting on your participation.

Before I close, I'd like to take a moment and acknowledge Kit Vaughan and Sandra Olney. I thank them for their leadership as past-president and president over the past two years. As Kit steps down from the council, I want him to know that his energy, vision, and knowledge will be sorely missed. During his years of dedication, he has played an important role in making the ISB a vital part of the global biomechanics community.

I would also like to thank Martyn Shorten for his efforts as informatics officer on the ISB Web site and for his many innovative ideas that we hope to implement in the coming year.

Gert-Peter Bruggemann also leaves the council after his top-notch work as technical groups officer.

I would also like to welcome the new members to our executive council and other council positions (see the full list in this newsletter).

ISB has many enthusiastic, dedicated people involved. I look forward to the improvements and strides that we will make in the future - together !

*Mary Rodgers PhD*  
*ISB President*

**Minutes of the ISB General Assembly Meeting  
Dunedin, New Zealand, Wednesday July 9<sup>th</sup>  
2003, 1.00 pm**

**Present:** Sandra Olney (Chair), Julie Steele (Minute Secretary), Tim Barker, Maarten Bobbert, Tom Buchanan, Melanie Bussey, Brian Davis, Tim Doyle, Bruce Elliott, Rene Flachsmann, Laurent Frossard, Senshi Fukushima, Wendy Gilleard, Walter Herzog, Peter Huijing, Patria Hume, Justin Kavanagh, Jill McNitt-Gray, Peter Milburn, Peter Mills, Bridget Munro, Michael Olson, Gordon Robertson, Mary Rodgers, Shinji Sakurai, Heidi Schiewe, Martyn Shorten, Peter Sinclair, Karen Søggaard, Alex Stacoff, Fong-Chin Su, Ton van der Bogert, Frans van der Helm, Kit Vaughan, Michael Voigt, Alan Walmsely, Barry Wilson, Tim Wrigley, Graeme Wood, Toshimasa Yanai.

**1. Welcome**

Sandra Olney welcomed all to the meeting and outlined the agenda.

**2. Approval of Minutes: 11 July 2001**

**MOTION:**

Moved: Martyn Shorten; Seconded: Peter Huijing

"To accept the minutes of the General Assembly meeting held 11<sup>th</sup> July, 2001 in Zurich, Switzerland."

Approved unanimously with no business arising.

**3. President's Report**

**Sponsorship:** Sandra Olney outlined the ISB sponsorship framework being investigated by Council. All members were encouraged to talk to Kit Vaughan or Graeme Wood if they had any issues or suggestions re ways to facilitate ISB sponsorship.

**Technical Groups:** Sandra Olney reported, on behalf of Gert-Peter Brüggermann, an overview of the activities of the four ISB Technical Groups: Computer Simulation Group, Footwear Biomechanics Group, 3D Analysis of Human Motion Group, and International Shoulder Group. She highlighted that the groups provide an international forum for focussed scientific communication on specific issues relevant to each group. This is achieved primarily through the organization of international symposia, the

initiation of publications and proceedings of the symposia.

**Constitutional and Codes Changes:** Sandra noted that the four recommended amendments to the ISB Constitution had all been approved via the mail ballot of ISB members, including:

- Redefinition of Honorary and Emeritus membership
- Student representative on Council
- Duration of active membership
- Technical Group organization

As a consequence of these Constitutional changes, Council has also clarified that the membership dues for Emeritus members will be the same as student members and that Emeritus members will receive the same benefits of full ISB members. Students who were interested in assisting to establish procedures for Student Representation on Council were also encouraged to see Mary Rodgers at the end of the General Assembly meeting.

#### 4. Treasurer's Report

Graeme Wood presented his report pertaining to ISB finances. In summary, the income and expenditures (in Australian Dollars where 1 AU\$ = 0.65 US\$) were as follows:

**Income Statement: 1 Jul 2001 to 30 Jun 2002:**

Revenue	164,845
Expenses	175,235
Profit (Loss)	(10,390)

**Income Statement: 1 Jul 2002 to 30 Jun 2003:**

Revenue	201,056
Expenses	167,930
Profit (Loss)	33,126

Graeme reminded the members that during the Zurich General Assembly meeting it was agreed to draw down on ISB revenue, which was achieved in Year 1 but resulted in a profit in the past year. The between-year inconsistencies were due to sponsorship payments plus an improvement in the Australian dollar. Graeme provided details of revenue sources (dues, journal subscriptions, interest, advertising, sponsorship and tutorials) and expenditure (student grants, journal subscriptions, educational program, newsletter, bank charges, postage/phone stationary, equipment/ personnel, council operating expenses, Muiybridge medals, Promising Young Scientist Award, Treasurer's

expenses) and explained the three operating accounts used by ISB.

**Auditor's Report:** Graeme Wood then called on Gordon Robertson to give his assessment of the Treasurer's figures. Dr. Robertson stated that (i) both he and Dr. Peter Huijing had audited the figures for total assets and balance statements and (ii) these were in order.

**MOTION:**

Moved: Martyn Shorten; Seconded: Peter Milburn

"...we recommend that the General Assembly accept the Financial Reports prepared by the Treasurer as a true record and correct statement of the Society's finances"

Approved unanimously.

Graeme Wood then presented the proposed budget for the next two years, recommending that ISB draw down on consolidated revenue for next two years to provide greater benefits for full and student ISB members. The main proposed expenditures included maintaining the successful student grants program; initiatives to support biomechanics in developing countries, and development of ISB web services to enable Council members and the Treasurer to manage the Society's functions and as a resource for ISB members. Other proposed expenditure items included publications (hard copy newsletter); ISB awards moneys; increased honorariums for ISB tutors; operating costs and the Treasurer's expenses.

Frans van der Helm questioned why tutors should receive more money rather than reducing the amount students pay to attend. Walter Herzog commented that he agreed costs for student's tutorials should be reduced as much as possible. He explained that the local congress organiser's are responsible for setting the costs of the tutorials and in future the tutorials must be made more accessible. Brian Davis commented that in Cleveland, ISB 2005, it was anticipated that the cost would be \$25.00US per student. The General Assembly agreed that tutorial costs should be kept to a minimum so that they are accessible to students. Martyn Shorten commented that the costs paid to each tutor only

partial cover their costs and therefore the proposed increase was justified.

**MOTION:**

Moved: Gordon Robertson; Seconded: Walter Herzog

"...that the proposed budget is approved"

Approved unanimously.

Gordon Robertson commented that ISB should have an archive to keep important documents and photos. Sandra Olney explained that John Challis served as the ISB archivist. Gordon suggested such details should be kept on the web. Walter Herzog mentioned that an enormous amount of work had been done by the American Society of Biomechanics to get their archives in order and suggested that ISB do the same.

**ACTION:** ISB to consider arranging a full evaluation of their archives so they can be easily accessed and maintained.

Sandra Olney thanked Graeme Wood for all his efforts as Treasurer.

#### 5. Informatics Report

Martyn Shorten outlined his role over the past two years with respect to developing the website. His major task has involved a substantial overhaul of the website both cosmetically and for management purposes. He reported about 8,000 visitors per month to the web site with the most popular section being the job listings. Martyn outlined proposed developments of the site to allow more efficient membership management services online and to establish more streamlined management services and infrastructure. These proposed changes are designed to make the Society more efficient and save long-term costs. Improved membership services could also include online journal access via password to ISB membership services section only.

#### 6. Awards

Marten Bobbert reported the recipients of awards for his portfolio, which included:

- 2003 Promising Young Scientist Award (PYSA) Competition:  
Constantinos Maganaria

- 2003 Clinical Biomechanics Award (CBA) Competition:  
Behnam Heidari

The 2003 Young Investigator Awards and the NAC/Miyashita Asian Award were still being evaluated during the Congress and would be awarded at the closing ceremony. He noted that there were 74 applicants for the Clinical Biomechanics Award, 49 posters for the Young Investigator Award and 10 finalists for the oral presentation Young Investigator Award. There were 10 competitors for the Promising Young Scientists Award and it is proposed to increase the financial support of this in future years to recognise and support research excellence by young ISB members. Senshi Fukashiro reported that the NAC/Miyashita Asian Award was also still in progress and thanked the selection committee for their assistance.

#### 7. Education Report

##### (a) Student Grants Program

Alex Stacoff outlined recipients of the awards from the highly successful student grants program in which \$36,000 US was allocated.

##### (b) Tutorials

Walter Herzog outlined the four tutorials that were conducted, including:

- Muscle Mechanics  
Constantinos Maganaris
- 3-D Rotational Analysis  
Jesus Dapena
- Computer Simulation of Movement  
Ton van den Bogert
- Shoulder Biomechanics

Frans van der Helm and Ed Chadwick

Walter thanked the tutors for their input and stressed the need to make these tutorials accessible to students. He explained that the tutorial topics are arranged based on feedback and that input from ISB members is required to determine topics for the 2005 meeting. Topics can be similar to previous years but should serve to meet a need and demand.

##### (c) Affiliated Societies/EDC Societies

Jill McNitt-Gray outlined an application by the Australian and New Zealand Society of Biomechanics (ANZSB) to become an Affiliated

Society of ISB. She presented details pertaining to the Executive members of the ANZSB and commented that they share similar aims to ISB. Sandra Olney outlined that the Council recommend that the General Assembly approve the ANZSB as an Affiliated Society of ISB.

**MOTION:**

Moved: Walter Herzog; Seconded: Brian Davis

“...that the General Assembly approve the Australian and New Zealand Society of Biomechanics as an Affiliated Society of ISB”

Approved unanimously.

Jill then outlined proposed programs to assist Economically Developing Countries (EDC) by sponsoring staff and students from EDC to attend ISB, sponsoring keynote/visiting lecturers to EDC conferences and facilitating access to resource materials in EDC. Jill also commented on the need to develop the Affiliated Societies web activity.

**8. Newsletter**

Brian Davis outlined that eight issues of the Newsletter had been published. He thanks Sandra Olney for being so punctual for her Presidential reports. Items in the Newsletter now included interviews with Biomechanists from around the world and puzzles which have proven popular (and therefore members are encouraged to submit further puzzles!). It was suggested that the Newsletter could be an excellent way of archiving items such as the sketches by Jim Hay.

The membership was then asked their preference re what form they wish to receive the Newsletter in:

- Printed version only: n = 1
- Electronic version only: n = 15
- Electronic and printed version: n = 9

It was stressed that any electronic version of the Newsletter would only be accessible to members via a member's only section of the ISB web site.

**9. Constitution & Codes**

Sandra Olney outlined proposed changes to the Codes and Constitution that have been discussed by Council at the Executive Council meeting. These included:

- Voting process by “any” mail

- Newsletter Editor to be renamed Publications Officer
  - Representation in the absence of President
- Any constitutional changes would be sent to all members for voting by standard mail.

**10. Elections**

Sandra Olney outlined the election process in which 204 ballots were received. She thanked the current Council for their support and activity over the past two years. She thanked Kit Vaughan as outgoing Past-President and the members whose terms had ended including Gert-Peter Brüggermann, Senshi Fukushima and Martyn Shorten. The election results included:

*President Elect:* Brian Davis

*Council:* M Bobbert, E Hennig, J McNitt-Gray, W Herzog, M Grabiner, K Søgaard, R Gregor, A Stacoff, J Hamill, J Steele

*President:*

Mary Rodgers

*President- Elect:*

Brian Davis

*Past President:*

Sandra Olney

*Treasurer:*

Graeme Wood

*ISB 2005:*

Brian Davis &

Ton van den Bogert

Sandra Olney then closed the meeting and thanked Council for their leadership.

Meeting closed 2.00 pm

*Report respectfully submitted by Julie R Steele,  
ISB Secretary General*

**Tongue in cheek comment from the  
President-Elect – Brian Davis**

Top ten reasons for attending an ISB General Assembly meeting.

After extensive interviews at the ISB General Assembly meeting in Dunedin, the top ten reasons for the 40 people being in attendance were:

10. Ultimate nerds who wished to have some company with scientists.
9. People who were too lazy to visit the Tour Desk and plan a Wednesday afternoon sightseeing trip.
8. Individuals who hoped there would be some scandal with the auditor's report, and who wished to witness the public disclosure.
7. An "old-timer" who remembered the 1st ISB AGM when total chaos reigned.
6. A few potential council members who wished to find out if they had been elected to council.
5. Another few who thrive on challenges and wished to determine if they could read the treasurer's statements from the front row.
4. Students who wished to "be seen" by a potential employer.
3. Congress organizers who wanted a snooze after making it to the half-way point of the Congress.
2. Golfers who were "killing time" until the rain stopped. (This is reminiscent of the ISB President who, halfway through an AGM, handed over the task of chairing the meeting to the President-elect because tee-off time was approaching!)

And the number 1. reason:

1. Those who had fallen asleep during the session immediately preceding the Annual General Meeting.

**New council members**

Thank you for your votes during the election of council members. Since the constitutional amendment to include a student representative was not effective until after the elections, an interim student representative was appointed. The election next spring will include election of the student representative. We welcome the following new council members:

**Informatics Officer:**

Joe Hamill  
Department of Exercise Science  
University of Massachusetts Amherst  
Amherst, MA 01003  
USA

**Technical Groups Officer:**

Ewald Hennig  
Biomechanics Laboratory  
University Essen  
Henri-Dunant Str. 65  
45131 Essen  
GERMANY

**Newsletter Editor:**

Karen Søggaard  
National Institute of Occupational Health  
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**Student Representative:**

Motoshi Kaya  
Department of Mechanical and  
Manufacturing Engineering  
University of Calgary  
2500 University Drive NW  
Calgary, Alberta, T2N 1N4  
CANADA

**International Society of Biomechanics**  
**Amendments to the ISB Constitution – April, 2003**  
**Voting Results**

A total of 146 voting papers were received by May 26<sup>th</sup> 2003. The votes were counted by Julie Steele, ISB Secretary-General and audited by ISB member, Bridget Munro. The results of the votes are detailed below:

Amendment	Yes (No.)	No (No.)	Abstained (No.)	Illegal* (No.)	Total (No.)
1. Honorary & Emeritus Members	139 (95.2%)	6 (4.1%)	0	1 (0.7%)	146 (100%)
2. Student Rep on Council	132 (90.4%)	14 (9.6%)	0	0	146 (100%)
3. Non-financial Duration	142 (97.3%)	4 (2.7%)	0	0	146 (100%)
4. Technical Group Codes	136 (93.2%)	5 (3.4%)	5 (3.4%)	0	146 (100%)

\* A vote was deemed illegal if both the YES and NO boxes were ticked

*Based on these results it is declared that*

*Amendment 1* to change the definitions of Honorary and Emeritus members is accepted. Therefore, Article 3 will now read:

3.1 Honorary members shall be those restricted number of individuals who have made outstanding contributions to the field of Biomechanics.

3.4 Emeritus members shall be those individuals who have retired, due to age or illness, from professional employment in Biomechanics, and who have been active members in good standing of the Society for at least ten years.

*Amendment 2* to include a Student Representative on Council is accepted. Therefore, Article 5 will now be reworded to include:

5.1 A President, President-Elect, Past-President, Council Members representing various disciplines in Biomechanics, and a Student Representative shall constitute The Executive Council. A Treasurer, Secretary-General, and Newsletter Editor are appointed officers with approval of the Council.

5.2 The Executive Council, apart from the Student Representative, shall be elected from among the full members by the General Assembly for a term of two years. The Student Representative shall be elected from among the student members. Council members may be re-elected twice, apart from the Student Representative, who will serve a single two-year term.

*Amendment 3* to change the duration of time that a non-financial member continues to receive ISB privileges is also accepted. Therefore, Article 8: Annual Subscription will now read:

8.4 Individual members who fail to remit annual dues for two successive years shall be placed on the inactive list and shall forfeit all privileges of the society.

8.4.1 Members placed on the inactive list for non-payment of dues may be reinstated to active membership upon payment of an amount equivalent to two years of annual dues.

*Amendment 4* to change the wording of the Code of Operation for each Technical Group is accepted. Therefore, Article 9: Technical Groups will now read:



9.4 The activities of the Technical Groups shall be administered by an Executive Board. The structure of this Board, how officers are elected, and how the Executive Board operates, are to be defined in the Codes of Operation for each Technical Group which will be endorsed by the Executive Council

Sections 9.5 to 9.8 will be deleted and Sections 9.9 to 9.13 will be renumbered as 9.5 to 9.9.

It is noted that the Codes of Operation for each technical group must be endorsed by the Executive Council.

*Julie R Steele, PhD  
ISB Secretary General  
May 26<sup>th</sup> 2003*

**ISB Executive council is again calling for your opinion. Please vote!**

#### **Proposed changes and amendments of the constitution**

At the General Assembly meeting in New Zealand, Sandra Olney outlined proposed changes to the Codes and Constitution that have been discussed by Council at the Executive Council meeting. These included:

- Voting process by "any" mail
- Newsletter Editor to be renamed Publications Officer
- Representation in the absence of President

Currently, any constitutional changes must be sent to all members for voting by standard mail. Included in this newsletter is a ballot for voting on these constitutional changes. Please vote!

*Mary Rodgers Ph.D., ISB President and  
Robert Gregor, Ph.D., Constitution & Codes  
Officer*

**For the full text of the constitution please refer to the ISB homepage:  
<http://www.isbweb.org>**

#### **Congratulations to ISB 2003 award recipients!**

**Young Investigator Award, Podium Presentation** (sponsored by Elsevier Science and Journal of Biomechanics): **Jeremy M. LaMothe** (co-author Ronald F. Zernicke), University of Calgary, Calgary, Alberta, Canada.

**Jeremy LaMothe** began his research career during the last year of his Bachelors degree in Zoology (with distinction) when he undertook a project investigating gecko adhesion kinematics with Dr. A. P. Russell. Following completion of his BSc (April 2001), he enrolled in a Masters of Science in Kinesiology studying under Dr. Ron Zernicke at the University of Calgary. Soon after commencement of his Masters degree in September 2001, he fast-tracked to a PhD program, where he is currently investigating the relation between strain rate and bone adaptation. Recently, Jeremy was admitted to University of Calgary Medical School (MD/PhD Program) and was awarded one of the top entrance scholarships. He is also a recipient of the prestigious Canadian National Science and Engineering Research Council Doctoral Studentship, the Alberta Provincial CIHR Fellowship in Bone and Joint Health, and several other international and intra-institutional travel awards and scholarships. Concurrent with his doctoral research, Jeremy has been involved in a variety of other research investigating bone adaptation to senescence, diet, and injury. Jeremy's research has been disseminated in the form of manuscripts, co-authorship on an invited textbook chapter, and conference proceedings. Jeremy plans to finish his PhD by August 2004 and MD by May 2007.

**Young Investigator Award, Poster Presentation** (sponsored by XVIII ISB Congress Organisers): **Keith E. Gordon** (co-author Daniel P. Ferris), University of Michigan, Ann Arbor, United States.

**Keith Gordon**'s interest in biomechanics began as an undergraduate at U.C. Davis where he earned his bachelor's degree in Exercise Science. Much of his early focus was on injury mechanics and rehabilitation methods. Keith is a certified athletic trainer and has been part of several

sports medicine teams at various universities and high schools. His interest in biomechanics and athletic training led Keith to attend San Diego State University for his master's degree in the Biomechanics and Athletic Training Program. After finishing his degree, Keith became a research assistant at the UCLA Human Locomotion Laboratory. It was here that Keith developed his current research interest in neuromechanical control and rehabilitation of gait. Keith is currently in his third year of Ph.D. studies at the University of Michigan. He is working with Prof. Dan Ferris to develop a powered lower limb orthosis.

**Clinical Biomechanics Award** (sponsored by Elsevier Science and Clinical Biomechanics journal): **Behnam Heidari** (co-authors David FitzPatrick, Keith Synnott, Damien McCormack), Mechanical Engineering Department, University College Dublin, Dublin, Ireland.

**Behnam Heidari** received his B.Sc. in Mechanical Engineering in 1996 and an M.Sc. degree in Biomedical Engineering, majoring in Biomechanics, in 1999 from the AmirKabir University of Technology, Tehran, Iran. The research area for his M.Sc. addressed the prediction of load sharing in the lumbar spine, through a finite element modelling approach. Behnam has contributed to scientific conferences at both national and international levels and was granted an "ESB Travel Award" in order to present at the European Society of Biomechanics 2000 conference, Dublin, Ireland. He is currently a PhD student in Mechanical Engineering Department in University College Dublin with a project focused on the spinal disc and modelling of AIS, based on a fibre imbalance model. His research is funded through a Materials Ireland research grant under the agency of Enterprise Ireland. He has been awarded a certificate for Medical Sciences in Biomedical Engineering, by the Royal College of Surgeons in Ireland. His primary research interest is the biomechanics of spine. Applying computational modelling and simulation techniques to provide a means of improved simulation and visualisation of the spine in three dimensions. Through direct collaboration with research active orthopaedic surgeons it is intended to provide clinically useful bioengineering tools.

**Promising Young Scientist Award** (sponsored by Peak Performance Technologies): **Constantinos N. Maganaris**, Manchester Metropolitan University, Alsager, U.K.

**Constantinos Maganaris** received a BSc in Sports Science in 1995 from the College of Sports Science in Greece, and a MSc in Sports Nutrition in 1996 from the University of Aberdeen, UK. In 1999, he received his PhD in Muscle Mechanics at Manchester Metropolitan University, UK, 2.5 years after starting his studies. Since then, Costis has published 30 SCI journal papers, in more than 2/3 of which he is the first or the sole author. His research interest lies on the mechanical properties of muscles and tendons and the way these structures interact to produce forces and movement. Most of his work is experimental and involves measurements in the intact human body by means of ultrasonography, MRI, dynamometry and electrical stimulation. Apart from the PYSA award in ISB 2003, Costis has been the recipient of several other international awards and honours of excellence, such as the ASB 2001 Post-doctoral Scientist award, and a JSPS Post-doctoral grant award in 1999 for conducting research at the University of Tokyo, Japan. He has received external research grants for studies on the structure and function of muscles and tendons in old age and in children with cerebral palsy, and currently works as a Senior Research Fellow in Musculoskeletal Science at Manchester Metropolitan University, UK.

#### **The NDI and NAC-Miyashita awards**

**NDI Award:** Jang-Hee Yoo (co-author Mark S. Nixon), University of South Hampton, UK

#### **NAC/Miyashita Awards**

**Film/VTR award:** Jang-Hee Yoo (co-author M.S.Nixon), University of Southampton, U.K.

**Asia award:** Ryuji Kawamoto (co-authors Yusuke Ishige and Senshi Fukashiro), Keio University, Yokohama Sports Medical Center, and University of Tokyo, Japan.

*Maarten Bobbert  
Awards ISB2005 Officer*

**The XIXth Congress of the International  
Society of Biomechanics  
An organizers summing up!**

The Congress was held at the University of Otago in Dunedin, New Zealand from 6-11 July. In keeping with tradition, the Congress opened with the Wartenweiler Memorial Lecture, delivered by Dr. Steven Vogel of Duke University. Steven gave us a scholarly, thought provoking and entertaining lecture on "Twist versus Bend: flexibility in the face of flow". Dr Vogel contends that this aspect of structural biomechanics has wide importance in natural systems where high values of the "twistability to bendability" ratio appear to contribute to the success and adaptability of plant stems, insect wings, feathers and the spines of fish. By way of contrast, Steven made some observations about the torsionally stiffer structures made by man, and their often disastrous failures in torsion. Dr. Vogel both entertained and educated his audience and gave the Congress a memorable start.

The Keynote speakers covered a wide range of topics and all delivered interesting, informative, and sometimes controversial addresses. Many of the Keynote speakers had not given invited addresses at previous Congresses, and so there was an element of originality to their talks that attracted large audiences. On Wednesday morning there was a special symposium in honour of the late Dr Jim Hay. The symposium is best described by a quote from Martyn Shorten,

*"This morning's Symposium in honour of the late Jim Hay drew a large audience. It was very fitting that the tribute was paid here at the University of Otago, where he started his career. Following some opening remarks by Bruce Elliot, former students Barry Wilson, Jesus Dapena, Toshimasa Yanai, and Patricia Hume reviewed Jim's contributions to sport biomechanics. Despite his many important contributions, it's clear that Jim's legacy is more than the many books and papers he wrote. He had a knack for turning mere graduate students into real scientists. One of them, Walter Herzog, summed it up by saying that Jim had more influence on his development as a scientist than everyone else combined."*

A total of 265 oral and 224 poster papers were submitted, and 231 oral and 190 poster papers were presented at the Congress, which was attended by 490 delegates from 31 countries. The largest contingent from a single country was from Japan, headed by the Muybridge Medal winner Dr Tetsuo Fukunaga of Waseda University. His lecture "Effects of elastic properties of muscle-tendon complex on sports performances" was an absorbing presentation of experimental results and some "very expensive" animations that led us from in-vivo estimation of elastic properties to dynamically measured force-length and force-velocity relationships.

Walter Herzog once again organised the ISB Tutorials that were scheduled to run on the day of the Congress opening. There were a total of 108 registrations for the four tutorials. However, the usually benign Dunedin winter weather decided to do turn nasty, and the airport was closed by snow and ice for the weekend before the Congress. This left Keynote speakers, Tutorial presenters, and delegates stranded the length of New Zealand. The best story belongs to Jesus Dapena who was stranded in Auckland but his bag (checked to Dunedin) managed to make it through without him. Next day Jesus managed to start the journey south – only to find that his bag was on the way back north to be reunited with him. So, Jesus arrived in Dunedin, where there was a good covering of snow and a wind chill of about -15°C, with only the clothes he left California in. Fortunately, we managed to kit him out with a Congress fleece vest, so he survived until his well-travelled bag finally returned to Dunedin the next day. Brian Davis also has a good story to tell, but I'll leave that for him to tell at the next Congress, since he is the Organiser.

In spite of the weather, the Congress got off to a fine start, which was matched by all-important social program. There was something for everyone, from a Maori Cultural performance on Monday, to a Scottish Dinner (for the elderly) or a Student Pub-Crawl (for the insane) on Tuesday, and the Gala Dinner on Thursday. An innovation at the Congress was happy hours with free drinks at the end of each day – these ensured that weary delegates were well primed to enjoy the glittering night life of Dunedin, described by

an Otago academic as "The Riviera of the Antarctic". A highlight of the Dinner was the "Not the D&D Awards" in the absence of Dick Nelson and Dewey Moorhouse (the progenitors of the traditional Dick and Dewey Awards). Several ISB delegates were "honoured" for their contributions, and the inaugural Biomechanical Haiku Contest was won by John Brown of the University of New Brunswick for his entry,

*"Physiologist  
Learn to count and become a  
Biomechanist"*

To make the Congress more student friendly, in addition to the student oriented social functions, was breakfast sessions at which students could meet eminent biomechanists in an informal setting. These proved popular with both the students and their mentors.

Almost the last word on the Congress should belong to Martyn Shorten again, and is extracted from the Congress update pages of the ISB web site that tell you exactly what went on at the Congress. The URL is <http://www.isbweb.org/notisb/index.html>

*"Like Goldilocks said, this one is "just right". Big enough to offer a wide range of opportunities to learn, small enough to be manageable. Four parallel sessions to negotiate instead of ten, 500 people to talk to instead of 1000, one building complex to deal with instead of two or more. It all has a comfortable, low stress feel. The lecture rooms are big with huge screens so you can see nicely from the back seats. Big enough, that just about everyone squeezed into one for them for a performance by a Maori Cultural Group this evening. Speakers have their own LCD monitors so they can talk to their audience instead of to the screen. Internet access is available right outside the lecture theatres. Lunch just appeared in the foyer and exhibit area, where there's enough room for everyone and no need to stand in line. Fortunately, the posters on the mezzanine were a bit of a squeeze ... otherwise we would have nothing to complain about and that would be too bad."*

For those of you who missed it there is always ISB XX in Cleveland in 2005. See you there!

*Alan Walmsley, Co-convenor, ISB XIX*

## ISB Student Travel Report

**Sandra Nauwelaerts, Functional Morphology  
University of Antwerp (Belgium)**

I am currently studying towards a PhD in Biological Sciences. My research area is the functional morphology of locomotion in frogs, and my work focused so far on the comparison between jumping and swimming.

While going into the details of the biomechanics involved in these different modes of locomotion, we encountered the problem of determining the external forces in an aquatic system. Obtaining experimental data on these forces is a complex task. To propel itself, an animal has to interact with the surrounding water. This interaction is determined by the physical properties of the water, the laws of fluid mechanics and the swimming movements of the animal. The amount of thrust generated by the animal depends on the rate and the direction in which it changes the momentum of the surrounding water. One way of estimating the thrust forces generated by the animal is to study the flow induced by its movements. In January 2002, I was grateful to receive an ISB Student International Travel Grant, which provided the means for me to work at the University of Groningen for two months with Dr. Stamhuis and Dr. Videler's research group. This group's expertise lies in the field of Behavioural Mechanics with emphasis on flow phenomena related to aquatic locomotion and this group has a long history of investigating flow by use of a PIV (Particle Image Velocimetry) system, which is a powerful means for the quantitative analysis of flows. I am thanking the society for this opportunity and the department of Marine Biology for their warm welcome and support during my stay. The focus of my visit was to learn to work with the PIV technique and to gain insight into the hydrodynamical principals by conducting and analysing the flow around the swimming frogs. I am continuing this work for application in my thesis. I would like to thank the International Society of Biomechanics for their financial support and would strongly encourage other students to take advantage of this opportunity to enrich their research experience.

**ISB Student Dissertation Award Report  
Brian Umberger**

I would like to begin by thanking the Student Grants Committee of the International Society of Biomechanics for selecting my proposal to receive a Matching Dissertation Award. I would also like to thank the leadership of the International Society of Biomechanics for initiating and continuing the student awards program. These awards provide an excellent means to help graduate students in biomechanics pursue their research, attend the ISB Congress, and experience biomechanics in different laboratories around the world.

My research is focused on understanding optimization phenomena in human locomotion. One of the oldest examples of this is the finding that under normal circumstances, people seem to subconsciously choose the walking speed that minimizes the energetic cost of traveling a given distance. In addition, at any given walking speed, people generally choose the stride rate or frequency that minimizes energy expenditure for that speed. A similar patterns can be observed in running and other activities, such as race-walking and wheelchair propulsion, in that subjects will normally choose the rate of limb movement that is most economical. In bicycling though, the situation is different in that most people choose pedaling cadences that are considerably higher (20-40 rpm) than would be energetically optimal. Arm crank ergometry is a similar task to pedaling, except that it is performed with the upper limb rather than the lower limb. The limited data available for arm cranking suggest that the response may be similar to that in cycling, but there have been no compete studies performed in arm cranking examining preferred rates, and using a large range of cadences. One goal of my research is to compare the response to cadence manipulation with the preferred rates for both cycling and arm cranking in the same group of subjects.

Our laboratory was already equipped to make the necessary measurements for bicycle ergometry, however, we did not have an arm crank ergometer capable of providing a constant mechanical power output with changes in cranking rate. The funds provided by the ISB award were used to acquire an electromagnetically braked arm ergometer that is capable of providing a constant power output over the range of cadences we typically use with test subjects (40-120 rpm). Unfortunately, shortly after we acquired the arm crank ergometer, our electromechanically braked bicycle ergometer stopped functioning properly, and we spent a long time trying to repair, and finally replaced, the bicycle ergometer. Around the same time, the pedal

dynamometers we use to measure forces during cycling were damaged, and also needed to be repaired. I have been assured that this is all just part of the overall graduate research experience, and it will make me a better person (if it doesn't kill me first). After many delays, we have finally collected successful pilot data, and the results look encouraging, although preferred cadences in arm cranking do not appear to be as high as in cycling. Very shortly we will be moving forward with the project and begin testing subjects in the laboratory. In closing, I would like to reiterate my appreciation to the ISB for their financial support of my research. Unfortunately the project was not completed in time for submission to the XIXth Congress in Dunedin, New Zealand. However, I very much look forward to disseminating the final results of this research, and perhaps the results of a follow-up study, at the next ISB Congress in 2005.

**ISB Student Dissertation Award Report  
Michael E. Hahn, University of Oregon**

Twenty-five to thirty-five percent of community-dwelling persons 65 or more years old have experienced falling. Of those fallers, 24% sustained serious injuries and more than 5% experienced fractures. Approximately 250,000 hip fractures occur each year in the US in people older than 65 years. These fractures account for a large share of the disability, death, and medical costs in this population. The total direct cost of fall injuries among people 65 and older was 20.2 billion dollars during 1994 (AAOS, 1998).

Approximately half of all falls occur during locomotion (Prudham and Evans, 1981). In particular, imbalance and tripping over obstacles during gait have been reported as two of the most common causes of falls in the elderly (Blake et al., 1988; Tinetti, 1987; Campbell et al., 1990). A quantitative assessment of dynamic stability during obstacle crossing should allow identification of potential balance deviations, enhance an individual's self awareness about their increasing risk of falling, and to ultimately reduce the incidence of falling injuries in the elderly population.

In the past year I was able to make substantial progress in pursuit of these goals, thanks in large part to a dissertation matching grant from the International Society of Biomechanics. With these funds I was able to recruit and collect data on 40 young and elderly human subjects, providing remuneration to each. Additionally, I was able to acquire software which proved critical to analysis and modeling portions of the project. I sincerely

appreciate the support of the ISB in funding opportunity.

At the ISB 2003 Congress this summer, I will be presenting three papers detailing the outcomes of this work, specifically addressing the following specific aims:

- 1) quantifying whole-body dynamic stability in healthy young and elderly,
- 2) available capacity of selected lower extremity musculature during locomotion, and
- 3) development of an artificial neural network model mapping neuromuscular performance to that of whole-body dynamic stability measures.

#### References:

- American Academy of Orthopaedic Surgeons. (1998) Don't let a FALL be your last TRIP.
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- Blake, A.J., Morgan, M.J., Dallosso, H., Ebrahim, S.B.J., Arie, T.H.D., Fentem, P.H., and Bassey, E.J. (1988) Falls by elderly people at home: prevalence and associated factors. *Age Ageing* 17: 365-372.
- Tinetti, M.E. (1987) Factors associated with serious injury during falls by ambulatory nursing home residents. *J Am Geriatr Soc* 35: 644-648.
- Campbell, A.J., Borrie, M.J., Spears, G.F., Jackson, S.L., Brown, J.S., and Fitzgerald, J.L. (1990) Circumstances and consequences of falls experienced by a community population 70 years and over during a prospective study. *Age Ageing* 19: 136-141.

#### ISB Student Dissertation Award Report

Kristian Matthew O'Connor, Ph.D.

I wish to thank the International Society of Biomechanics for their generous assistance with the Matching Dissertation Grant. A primary part of my dissertation work involved functional MRI scans, which required costly use of an MRI unit at Yale Medical Center. Without the financial assistance of the society, I would not have been able to complete this critical piece of my dissertation.

The purpose of my dissertation was to investigate the role of the extrinsic foot muscles during running. The extrinsic foot muscles are those that insert on the foot and originate proximal to the foot. Running overuse injuries are typically associated with excessive pronation of the foot during stance. Excessive pronation may impose stress on the extrinsic muscles of the foot leading to injury. Therefore, these studies examined the roles of these muscles when an external perturbation was employed in the form of varus, neutral, and valgus-wedged

shoes. It was hypothesized that running in the valgus shoes would increase eversion (approximating pronation), the net inversion joint moment, activation of the invertor muscles, and the forces in these muscles.

The first experiment was designed to investigate the kinematic and kinetic responses to running at 3.6 m/s in the varus, neutral, and valgus shoes. This study also reported the EMG profiles of some of these muscles. The valgus shoes increased maximum eversion and the peak inversion joint moment. The calculation of joint work also demonstrated that there was greater energy absorption in the frontal plane while running in the valgus shoes. This indirectly suggested that the muscles involved in controlling pronation of the foot absorbed more energy when eversion increased, which could be related to injury potential. No significant differences were observed for EMG.

The second experiment further investigated the activation of the extrinsic foot muscles using both EMG and functional fMRI during treadmill running. Functional MRI provides information about muscle metabolic activity that relates to the workload of the muscle. It has the advantage of excellent spatial resolution that avoids the cross-talk limitation of EMG. As in the first study, no differences in activation/metabolic activity were detected between conditions.

The third experiment developed a musculoskeletal model to estimate the force in each of the extrinsic foot muscles. The model established that the soleus was a substantial contributor to supination of the foot, along with the tibialis posterior. Also, the valgus shoe increased energy absorption in the soleus tendon. These data may establish a direct link between "excessive" pronation and injuries such as medial tibial stress syndrome.

The results of the experimental data suggested that hyper-pronation caused greater forces in those muscles resisting pronation, although there were no measurable group-wise activation changes between conditions with EMG or fMRI. The musculoskeletal model, which utilized a single subject's data, predicted changes in muscle forces between conditions that seemed to correspond to shifts in that subject's EMG profiles. The model must be tested further before these results can be interpreted with confidence. Thank you again to ISB for the opportunity to pursue this research, and I look forward to continuing this work.

*In memoriam:*

The scientist of a wide research range  
Levan Chxaidze

Anniversary has passed from the death of the prominent (mutable) scientist, who founded biomechanics science in Georgia. He is a doctor of biological science, honored master of scientific council in USSR academy. He was discussing the problems of biomechanics and international association of biomechanics. Chxaidze held the chair of biomechanics and biometry, he was pro-rector of scientific work of Georgia State Physical Culture Institute. He is professor Levan Chxaidze .

Since 1927 he has been directing the great social science in physical culture and sport. He took part in international Spartakiada in 1928. He was the chair of council of referee (umpire) in football of republic. The first scientific work- "The methods of graphic records of sport games." Since that time it didn't lost its importance. Before the war Chxaidze began the problems of footballist's biomechanical moving, which causes the opening of a new thing called "Paradox of Chxaidze", that entered in books about football.

The world war II, began and the (military) officer Chxaidze took part in the war and he got many great orders. After war he continued his work about human's biomechanical moving, he founded the principles of human's moving in free space (environment) than he used this research in discussing the problem about human's coordination in imponderability and restart in cosmic flying.

Scientist researched many biomechanical moving of sportsmen. Brumel, Saneev, Garincha and e.c.

The work of Levan Chxaidze were published in many scientific journals also in national association of international scientific meetings and in "Tsiolkovski readings" He was decorated (rewarded) with gold medal for scientific researches in sport. He was chose as honored member of many scientific researches.

The great scientific interests of Levan Chxaidze made him research the work of Pushkin, published by "House of Pushkin". Chxaidze took part in many pedagogical works in Georgia State Physical Culture Institute, also

in high scientific Institute in Russia, in the center to get ready cosmonauts. During years he took part in many researches around the sport in Georgia.

Being on honored rest he still continued his scientific work in the center of getting ready the cosmonauts.

The great scientist splendid teacher, smart interlocutor will be always in hearts of his friends and colleagues.

Professor Merab Mirtskhulava  
Academy of Physical education and sports of Georgia.  
Head of Biomechanics department

*Invitation:*

International symposium on neuromuscular  
assessment in the elderly worker  
Turin, February 20 - 21, 2004.

The purpose of the Symposium is to discuss the results achieved within the European project "Neuromuscular Assessment of the Elderly Worker" (NEW) and to integrate knowledge in the field of occupational medicine and applied ergonomics among scientists in the field. We encourage contributions on epidemiological studies, methodologies for muscle assessment, basic physiology of ageing, EMG biofeedback, rehabilitation medicine, and related topics

1. Epidemiology, social and economical relevance of work-related musculo-skeletal disorders
2. Methodology of investigation. Questionnaires, clinical, and functional tests
3. What information is contained in surface EMG and how can it be extracted ?
4. What information is contained in MMG and how can it be extracted ?
5. Advanced issues in surface EMG: decomposition, single motor unit analysis, electrode arrays
6. Applications of EMG biofeedback in work-related musculo-skeletal disorders

For further information contact : Sara Lecce,  
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[http://www.lisin.polito.it/english/education/future\\_courses.htm](http://www.lisin.polito.it/english/education/future_courses.htm)

Organizing committee and secretariat

S. Lecce, R. Merletti, M. Pozzo,  
LISiN - Centro di bioingegneria del Politecnico, Via  
Cavalli 22/G 10138 Torino,  
Tel 011-433 04 76 Fax 011-433 04 04

**CALL FOR PROPOSALS FOR  
THE XXITH CONGRESS OF THE  
INTERNATIONAL SOCIETY OF  
BIOMECHANICS (2007)**

Persons or groups interested in organizing an International Congress on Biomechanics are invited to prepare and submit a formal proposal to the ISB Executive Council through the President-Elect. Included in the proposal should be detailed information about the following aspects:

**1. Organizer**

Describe research interests and activities of the proposed organizer(s) and explain, why you desire to organize the Congress. Provide a description of your institution or department with its principal areas of research.

**2. Dates**

Indicate the exact dates proposed for the Congress. Careful consideration should be given to university vacation periods in major countries, and the attractiveness of visiting your part of the world at that time of the year.

**3. Support**

Outline your sources of financial support such as government, university, institutes, industry, sports organizations, etc. If possible enclose a letter of support from the chairman of your Department, Institute Director, President of the University or a similar official. Add a list of professional organizations willing to sponsor the Congress.

**4. Personnel**

Provide evidence of the availability of organizational personnel such as secretaries, housing co-ordinators, business managers, etc.

**5. Budget**

Submit a provisional budget including the major financial arrangements. Indicate the estimated congress fee for participation of members and non-members and list the activities included by this fee.

**6. Facilities**

Provide details of the following:

Housing. Type and approximate cost of accommodation, proximity to Congress meeting place.

Meals. Location and cost.

Meeting rooms. Number of meeting rooms available for the congress, audio-visual systems, capacity of rooms, etc.

Recreational facilities available to participants. Sport fields, swimming pool, running track, exercise room, gymnasium, etc.

Book and equipment exhibit area(s). Possibilities for book and equipment exhibitions. Research laboratories, planned tours, demonstrations, etc.

**7. Travel arrangements**

Outline the different ways to travel to the Congress, by air, train, bus, boat, private car, etc. Name candidates for official travel agency and airline, if appropriate. Make provision for travel assistance to participants during the congress

**8. Advertisements**

Detail your plans for promoting and advertising the Congress.

**9. Reviewing**

Describe your plans for the reviewing of submitted abstracts and the preparation of the Book of Abstracts.

**10. Publication**

Indicate your plans for editing of manuscripts and for publication of the key-note and award-winning papers.

**11. Activities**

Mention the historical and cultural activities available to participants during or after the conference. Also include your plans for special programs for accompanying persons.

**12. Climate**

Describe the climate to be expected in the area and for the period of the proposed Congress.

Two copies of the proposal should be submitted by Feb 1, 2004 to:

Brian L. Davis, Ph.D.  
Dept. Biomedical Engineering (ND20)  
Cleveland Clinic Foundation  
9500 Euclid Ave  
Cleveland, Ohio 44195  
USA

Tel: (216) 444-1055  
Fax: (216) 444-9198  
Email: [davis@bme.ri.ccf.org](mailto:davis@bme.ri.ccf.org)

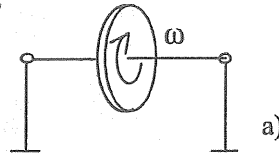
Descriptive brochures and other helpful information material should be included. Each proposal will be reviewed and compared to other proposals by members of the Executive Council of ISB. The final decision will be made by the Council of ISB.



**Puzzle:** We all know the work-energy relation, which states that the total work done by all the forces acting on a mass equals the change in kinetic energy of the mass. When applied to the gyroscope below some questions arise?

The gyroscope of Figure a) which is supported to the left and the right is spinning with the angular velocity  $\omega$ . Its rotational energy is

$$E_1 = \frac{1}{2} I \omega^2$$

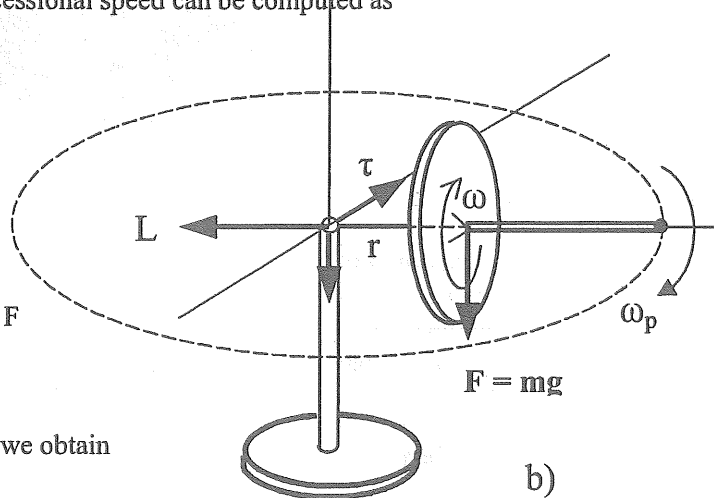


When the right supporting post is removed it undergoes precessional motion  $\omega_p$  as shown in Figure b) as we all know. The precessional speed can be computed as

$$\omega_p = \frac{mgr}{L}$$

with

- $I$  = moment of inertia
- $L$  = angular momentum
- $g$  = gravitational acceleration
- $m$  = mass of the gyroscope
- $r$  = the moment arm of the Force  $F$
- $\tau$  = torque produced by  $F = mg$



When calculating the total Energy we obtain

$$E_2 = E_1 + \frac{1}{2} mr^2 \omega_p^2$$

Doubling the moment arm from  $r$  to  $2r$  we obtain  $\omega_p^* = \frac{mg2r}{L} = 2\omega_p$  and

$$E_3 = E_1 + 16 \frac{1}{2} mr^2 \omega_p^2$$

with an increase sixteen times more than above.

Questions:

- 1) Where does the energy increase of the system comes from or what force has done the work to change the total energy of the System?
- 2) If there is no increase in the total energy of the system from where does the gyroscope gets its energy to move around on a circle in the horizontal plane with the precessional speed  $\omega_p$ ?
- 3) Is a centripetal force needed in the point of support to keep the center of mass  $m$  of the gyroscope on the circular path?

W. Lutz Bauer, University of Bremen

Send in your suggestion of possible answers to the three questions before the 15<sup>th</sup> of November to ks@ami.dk. Selected answers will be published in next issue of the ISB Newsletter

# Journal of Biomechanics



Editors-in-Chief  
R. Huiskes and F. Guilak  
ISSN: 0021 9290

The *Journal of Biomechanics* is the leading forum for the publication of articles describing the principles of mechanics to explore biological problems. Papers published in the journal cover a wide range of topics in biomechanics including, but not limited to:

- Fundamental Topics
- Cardiovascular & Respiratory Biomechanics
- Dental Biomechanics
- Injury Biomechanics
- Orthopaedic Biomechanics
- Rehabilitation Biomechanics
- Sports Biomechanics
- Cell Biomechanics

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- If you would like to discuss informally a submission to the journal, or have an idea for a focussed journal issue, please feel free to talk to one of the journal Editors-in-Chief: Professor R. Huiskes (E-mail: [Biomechanics.BMT@tue.nl](mailto:Biomechanics.BMT@tue.nl)) or Professor F. Guilak (E-mail [guilak@duke.edu](mailto:guilak@duke.edu)).

## Upcoming Meetings, Workshops

### 2003

**Technical Conference on Mechanics of Biological and Biologically Inspired Materials**  
October 2-3, 2003, Springfield, MA  
<http://www.sem.org/CONF-FC-TOP.asp>

### 7th IOC Olympic World Congress on Sport Sciences.

Hilton Athens Hotel  
7 to 11 October 2003, Athens, Greece  
<http://www.iocworldcongress.com>  
Contact directly Ms. Angelika Chantzou,  
Tel. No.: 003-210-2004053,  
Fax No.: 003-210-2004099,  
E-mail: [axantzou@athens2004.com](mailto:axantzou@athens2004.com)

### International Meeting on Applied Physics (APHYS-2003)

October 14-18th 2003, Badajoz (Spain)  
<http://www.formatex.org/aphys2003/aphys2003.htm>  
Email: [secretariat@formatex.org](mailto:secretariat@formatex.org)

### 1st. Scientific Congress of the Polish Sports Traumatology Society ( auspices of EFOST)

October 23-25 2003, Warsaw Poland  
<http://www.ptts.org.pl>  
E-mail : [jacek.laskowski@carolina.pl](mailto:jacek.laskowski@carolina.pl)

### ICMMB-13: XIII International Conference on Mechanics in Medicine and Biology

November 12-15, 2003  
National Cheng Kung University, Tainan, Taiwan  
<http://www.ncku.edu.tw/~ICMMB>

### ASME International Mechanical Engineering Congress and R&D Expo

November 16 - 21, 2003, Washington, D.C., USA  
<http://www.asmeconferences.org/congress03/CallForPapers.cfm>  
and follow the links for "Bioengineering"  
Email: [msacks@pitt.edu](mailto:msacks@pitt.edu)

### 2004

#### AP Biomech 2004

First Asian Pacific Conf. on Biomechanics  
March 25-28, 2004, Osaka University, Osaka, Japan;  
Mechanical and Bioengineering Systems Lab.  
e-mail: [apbiomech@me.es.osaka-u.ac.jp](mailto:apbiomech@me.es.osaka-u.ac.jp)  
<http://apbiomech.me.es.osaka-u.ac.jp/>

### XVth Congress of the International Society of Electrophysiology & Kinesiology

### "An Invitation to Innovation"

Boston University, Boston, MA, USA  
June 18-21, 2004  
<http://isek2004.bu.edu>

### ESB 2004 Congress

Eindhoven University of Technology  
Department of Biomedical Engineering,  
P.O. Box 513, 5600 MB Eindhoven, The Netherlands  
Tel: + 31 40 24 72 851  
Fax: + 31 40 24 47 355  
E-mail: [esb2004@tue.nl](mailto:esb2004@tue.nl)

### International Conference on Voice Physiology and Biomechanics

Marseille (France), August 18-20, 2004  
Contact: [agiovann@ap-hm.fr](mailto:agiovann@ap-hm.fr)  
<http://icv2004.free.fr>

### CSB XIII, Canadian Society for Biomechanics / Société canadienne de biomécanique

4-8 August 2004, Westin Hotel, Halifax  
Contact: Dr. Cheryl Kozey, Dalhousie University, Halifax, [clk@dal.ca](mailto:clk@dal.ca)  
See website: <http://www.csb2004.ca>

### ISBS XXII

International Society of Biomechanics in Sports  
Dates: 9-12 August 2004, University of Ottawa  
Ottawa, Ontario, Canada  
Information: E-mail: [ISBS2004@uottawa.ca](mailto:ISBS2004@uottawa.ca)

### 6th International Symposium on Computer Methods in Biomechanics & Biomedical Engineering

February 25-28, 2004, Tryp Atocha Hotel, Madrid, Spain  
<http://www.uwcm.ac.uk/biomadrid/>

### 2005

ISB 2005 Congress  
August 1- 5, 2005  
Cleveland, USA

### 2006

5th World Congress of Biomechanics  
Munich, July 29-Aug 4, 2006.  
For further information contact [Liepsch@fhm.e](mailto:Liepsch@fhm.e)

## Editor's Notes and Requests

It is a great challenge for me to take over the task of ISB Newsletter editor starting with this issue.

With the amount of computerization of the communication within the scientific world, the Newsletter's role as being something complementary to the homepage and Biomech-L calls for some considerations. The homepage communicates general information about the ISB society relevant for non-members as well as members. Biomech-L serves as a very responsive environment for acute specific biomechanical questions between ISB members. The Newsletter most of all serves as the most direct link between the executive council and the ISB members and therefore, is an important factor in keeping ISB together as an organization. And as Sandra Olney pointed out in her president's presentation: It is important to take care of the organization!

Contributions from the council will be the easiest part, since the editor knows who to ask as a responsible officer to give a report on a specific subject.

However, a successful function of the Newsletter is depending as much on the input from the members as from the executive council.

Therefore, I would like to use this opportunity to call for contributions from the members.

Newsletter items could be a description of the affiliated societies of ISB but also descriptions of specific laboratory facilities or some remarkable accomplishments of ISB members like awards grants, promotions, author of a new book or other kinds of honours. It could as well be a description of the state of the art of Biomechanics in your country.

At the council meeting it was decided to focus on our own history and that the Newsletter could play a role for documentation or archiving some historic evidence.

Therefore another welcomed Newsletter item is historical contributions or just anecdotal descriptions from the history of ISB. For instance, who decided that the physiologists, who had learned to count, needed an association like ISB? Who did the initial work to put together the first constitution? Who arranged the first ISB conference and how many attended? Who was the first woman to become a member of the society or of the council?

Along the same line I will try to continue the row of interviews of well-known biomechanical researchers started by my predecessor, Brian Davis. He kindly provided me with the list of proposed interview candidates. However, further suggestions are welcome!

And last but not least, we all enjoy the entertaining puzzles, so please provide more of these.

With these words I hope that you will all help to keep the Newsletter a dynamic and interesting part of ISB.

*Karen Søgaard*  
*Newsletter editor*

The content of the Newsletter does not necessarily reflect the philosophy and opinions of the ISB membership. Usually the Newsletter is published in the spring, summer, fall, and winter. There are no deadlines, since (with a former editor's words) historically, deadlines have never been taken seriously. Submission is not a guarantee of a timely or accurate appearance in the Newsletter. Please send your contribution in electronic form in any form of English to [ks@ami.dk](mailto:ks@ami.dk)

## Membership News – New Members to ISB

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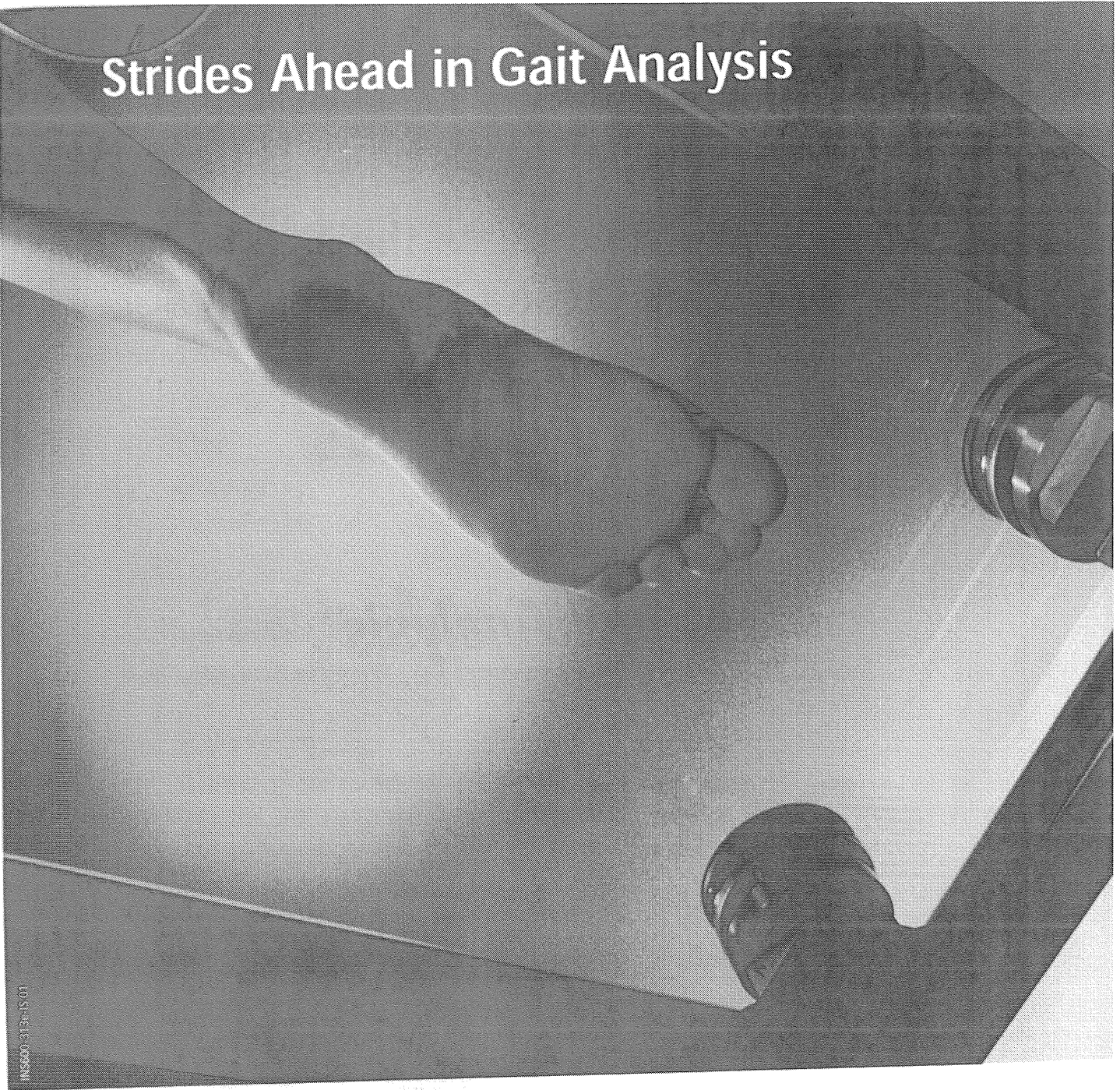
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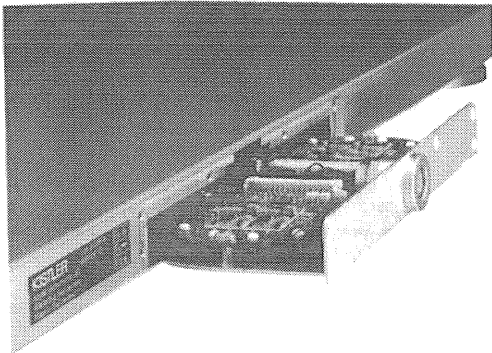
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